What is claimed is:

1. An Implantable medical device (IMD) having electrodes suitable for chronic contact with internal tissue in a living body so as to receive physiologically originated electrical signals via said contact, said IMD having a hermetically sealed housing through which said electrodes are connected to provide said physiologically originated electrical signals to at least one conductor inside said housing, said IMD comprising:

an ECG sensing circuit inside said housing for receiving said physiologically originated electrical signals from said at least one conductor and for generating ECG sample signals having values representative of a feature in said physiologically originated electrical signals at a sampling rate,

an activation triggering circuit inside said housing, also in electrical connection to said at least one conductor, for sensing a triggering event and for generating and providing as output, a trigger signal in the presence of triggering events,

a memory circuit connected to receive data signals and to store or retrieve said data signals under control of a processor circuit,

said processor circuit for reacting to said trigger signal to initiate storage into said memory of a group of said ECG sample signals as ECG data signals and for storing a triggering event signal as an additional data signal in said group of ECG sample signals as one data signal.

2. The IMD as set forth in claim 1 wherein:

said activation trigger circuit comprises a noise sensing circuit in electrical connection to said at least one conductor, for sensing noise in said conductor and for generating and providing as output, a noise detection signal as said trigger signal in the presence of noise in said physiologically originated electrical signals if noise is sensed to be present in said at least one conductor.

3. The IMD as set forth in claim 2 further comprising

an input amplifier circuit for generating apparent R-wave signals based on a pattern of measured electrical signals in said at least one conductor and for generating apparent R-wave detection signals responsive thereto, and

an auto-trigger circuit for detecting apparent arrhythmias based on a predetermined pattern of said apparent R-wave detection signals from said input amplifier circuit, also responsive to said noise detection signal for modifying said predetermined pattern.

4. The IMD as set forth in claim 2 further comprising

an input amplifier circuit for generating apparent R-wave signals based on a pattern of measured electrical signals in said at least one conductor and for generating apparent R-wave detection signals responsive thereto, and responsive to said noise detection signals to cancel generation of said apparent R-wave detection signals in the presence of said noise detection signals, and

an auto-trigger circuit for detecting apparent arrhythmias based on a predetermined pattern of said apparent R-wave detection signals from said input amplifier circuit.

5. The IMD as set forth in claim 1 further comprising:

an R-wave detection circuit connected to said at least one conductor for sensing the presence of apparent R-waves in said physiologic signal and for generating an R-wave detect signal when apparent R-waves are sensed, and wherein;

said activation trigger circuit comprises a trigger sensing circuit responsive to detection of a predetermined pattern of R-wave detect signals, for generating and providing as output, an apparent arrhythmia signal as said trigger signal in the presence of said predetermined pattern of R-wave detect signals.

6. The IMD as set forth in claim 5 further comprising:

a manual trigger circuit in a device adapted to be held outside said living body for generating a manual trigger signal receivable by said processor circuit to initiate storage into said memory of a group of said ECG sample signals responsive to said generated manual trigger signal, and wherein said additional data signals generated by said processor are also produced by said processor circuit when a manual trigger signal is received by said processor circuit.

7. The IMD of claim 6 wherein said processor in response to a manual trigger signal produces an additional data signal of a different value than a value of an additional data signal produced responsive to an apparent arrhythmia signal.

8. An IMD as set forth in claim 1 further comprising:

an R-wave detection circuit connected to said at least one conductor for sensing the presence of apparent R-waves in said physiologic signal and for generating an R-wave detect signal when apparent R-waves are sensed, and wherein;

said activation trigger circuit comprises a trigger sensing circuit responsive to detection of a predetermined pattern of R-wave detect signals, for generating and providing as output, an apparent arrhythmia signal as said trigger signal in the presence of said predetermined pattern of R-wave detect signals

and a noise sensing circuit in electrical connection to said at least one conductor, for sensing noise in said conductor and for generating and providing as output, a noise detection signal in the presence of noise in said physiologically originated electrical signals if noise is sensed to be present in said at least one conductor, and wherein:

said processor circuit stores a data signal representative of said noise detection signal into said group of ECG sample signals as an additional data signal.

9. The IMD as set forth in claim 1 further comprising:

an additional physiologic sensor circuit comprising a physiologic sensor for measuring a physiologic a condition and an output generating circuit for generating a additional physiologic data signal output representative of said measurement of said physiologic condition, and wherein said processor circuit stores said additional physiologic data signal into said group of ECG sample signals as further additional data signals.

10. The IMD as set forth in claim 1 wherein:

said processor can only store a limited number of additional data signals in a set of ECG data signals.

11. The IMD as set forth in claim 10 wherein said limit is not more than one additional data signal per 30 ECG data signals.

12. The IMD as set forth in claim 1 further comprising:

signal to data conversion circuit means for generating a range of digital value data signals representative of said feature of said physiologic signal, wherein a portion of a said range is dedicated to additional data and unavailable for representing said feature.

13. The IMD as set forth in claim 1 wherein said feature is amplitude or a variation in amplitude.

14. A medical information system comprising the IMD as set forth in claim 1, wherein said IMD further comprises:

a telemetry circuit for sending and receiving telemetry data signals between itself and an outside device and further comprising:

said outside device having a telemetry circuit for receiving said telemetry data signals and having transformation circuitry for transforming said telemetry data

signals into an image for display on a display screen, wherein said transformation circuitry reconstitutes said telemetry data as display data and wherein said transformation circuit parses said additional data from said ECG data in said reconstituted data for display of said ECG data as an ECG representation on said display screen.

15. A method for recording noise signals contemporaneously with a recording of an ECG signal into a memory as a series of sampled values, responsive to a trigger signal, comprising:

monitoring an ECG input to find noise in an ECG input signal,

generating a signal representing said noise found in said ECG signal,

recording said signal representing said noise in an ECG data record memory, replacing one sampled value of the ECG data record with said signal representing said noise,

where ECG data is recordable only within a limited range of available values and the noise signal is limited to values outside of the range of values forsaid ECG data.

16 The method of claim 15 wherein no signal representing said noise is generated unless noise is found in said ECG signal.

17. The method of claim 16 wherein while no noise signal is generated, no signal representing said noise is recorded.

18 The method of claim 15 wherein said monitoring step comprises monitoring to find a plurality of characteristically different noise types and wherein the step of generating a signal representing said noise comprises generating a unique signal representing said noise for each of said plurality of characteristically different noise types.

19. The method of claim 15 further comprising the step of compressing said ECG signal samples to a compressed set of ECG samples, prior to recording said ECG signal samples.

20. The method of claim 15 further comprising the stpes:

transmitting recorded ECG and noise data recorded in said memory to an external device,

parsing said trigger and noise data from said ECG data, and

displaying said ECG data as an ECG display.

21. The method of claim 20 further comprising displaying said noise data.

22. The method of claim 20 further comprising forming an icon for each said noise signal and displaying said icon on said ECG display.

23. A method for recording trigger signals contemporaneously with the recording of an ECG signal into a memory as a series of sampled values, responsive to a trigger signal, comprising:

monitoring an ECG input to find arrhythmia triggers in said ECG input,

generating a trigger detected signal representing a finding of a predetermined pattern in said ECG input,

recording trigger detected signal in an ECG data record memory by replacing one sampled value of the ECG data record with said trigger signal

where ECG data is recordable only within a range and the trigger detect signal is limited to out of range values of said ECG data.

24. The method of claim 23 wherein said trigger detected signal is a plurality of different signals corresponding to a plurality of triggers.

25. The method of claim 23 further comprising the step of compressing said ECG signal samples to a compressed set of ECG samples, prior to recording said ECG signal samples.

26. The method of claim 23 further comprising the steps:

transmitting recorded ECG and trigger and noise data recorded in said memory to an external device,

parsing said trigger and noise data from said ECG data, and

displaying said ECG data as an ECG display.

27. The method of claim 26 further comprising displaying said noise and trigger data.

28. The method of claim 26 further comprising forming an icon for each said noise and trigger and displaying said icon on said ECG display.

29. A method for recording noise and trigger signals contemporaneously with the recording of an ECG signal into a memory as a series of sampled values, responsive to a trigger signal, comprising:

monitoring an ECG signal to find noise in an ECG input signal,

generating a signal representing said noise found in said ECG signal,

monitoring an ECG signal to find arrhythmia triggers in said ECG input,

generating a trigger detected signal representing a finding of a predetermined pattern in said ECG input,

recording said signal representing said noise and said trigger detected signal in an ECG data record memory, replacing one sampled value of the ECG data record with said signal representing said noise and another sampled value of the ECG data record with said trigger detected signal,

where ECG data is recordable only within a range and the signal representing said noise and the trigger detected signal are both limited to out of range values of said ECG data.

30. The method as set forth in claim 29 further comprising storing other sensor data in a separate memory location from a memory location where said ECG data is stored.

31. The method as set forth in claim 29 further comprising storing other sensor data in with said ECG in memory at a rate of up to one sensor data value for 30 ECG data values.

32. The method of claim 29 further comprising the steps:

transmitting recorded ECG and trigger and noise data recorded in said memory to an external device,

parsing said trigger and noise data from said ECG data, and

displaying said ECG data as an ECG display.

33. The method of claim 29 further comprising displaying said noise and trigger data.

34. The method of claim 29 further comprising forming an icon for each said noise and trigger and displaying said icon on said ECG display.

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